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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/945,340	08/31/2001	Agathagelos Kyrilidis	96072CIP2	1425

7590 11/01/2007  
Martha Ann Finnegan, Esq.  
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157 Concord Road  
Billerica, MA 01821-7001

EXAMINER
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PHASGE, ARUN S

ART UNIT	PAPER NUMBER
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1795

MAIL DATE	DELIVERY MODE
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11/01/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

09/945,340

Applicant(s)

KYRLIDIS ET AL.

Examiner

Arun S. Phasge

Art Unit

1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 5, 11-76 and 78-82 is/are pending in the application.
- 4a) Of the above claim(s) 11-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 5, 16-76, 78-82 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

#### *Claim Rejections - 35 USC § 103*

Claims 5, 16, 19, 21, 28, 31, 33, 39, 42, 44, 51, 53 and new claims 80-82 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stalling in view of Japanese patent 04-346830 of record for reasons of record.

Claims 5, 16, 19, 21, 28, 31, 33, 39, 42, 44, 51, 53 and new claims 80-82 rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese patent 58-041351 in view of Stalling of record for reasons of record.

The Japanese patent discloses the use of carbon microbeads, having a range of sizes including the claimed range, wherein the microbeads has the organic compounds attached by chemical modification (see abstract).

The reference fails to disclose the same types of organic compounds. The Stalling patent teaches the use of similar organic materials attached to a carbon material by chemical modification (see fig. 10B).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the disclosure of the Japanese patent with the

teachings of the Stalling patent, because the Stalling patent teaches the attachment of different organic compounds to carbonaceous material.

Claims 17, 29 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stalling in view of Japanese '830 as applied to claims above, and further in view of Kusano of record for reasons of record.

Claims 17, 29, and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese patent 58-041351 in view of Stalling as applied to claims above, and further in view of Kusano of record for reasons of record.

Claims 18, 20, 22-27, 30, 32, 34-38, 41, 43, 45-50, 52, 54-76, 78-79 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stalling in view of '830 as applied to claims above, and further in view of Boes of record for reasons of record.

Claims 18, 20, 22-27, 30, 32, 34-38, 41, 43, 45-50, 52, 54-76, 78-79 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese patent 58-041351 in view of Stalling as applied to claims above, and further in view of Boes of record for reasons of record.

*Response to Arguments*

Applicant's arguments filed 8/6/07 have been fully considered but they are not persuasive.

Applicants argue that the examiner has not explained how the attachment of fullerene to the organic compound as disclosed by the Stalling patent can be accomplished by the attachment to a carbon particle having a greater size as taught by the Japanese patent. The carbon particle and the fullerene are carbon particles and an organic compound attaching to the fullerene would attach to a bigger carbon particle with the same chemical bonds, since they are both carbon particles.

With regards to the secondary references, applicants argue that the different attachments of organic compounds to the fullerenes is nowhere taught by the Stalling patent. The secondary references teach the attachment of different organic compounds attached by chemical modification to a carbon substrate.

Accordingly, it would have been obvious to one having ordinary artisan to modify the disclosure of the Stalling patent to utilize other organic compounds to

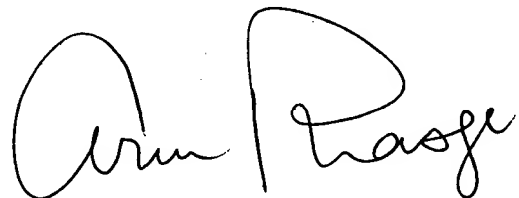
attach to the carbon material, because the secondary references teach the attachment of other organic material to carbon substrates.

*Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arun S. Phasge whose telephone number is (571) 272-1345. The examiner can normally be reached on MONDAY-THURSDAY, 7:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam X. Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read 'Arun Phasge', with a large, stylized 'P' at the end.

Arun S. Phasge  
Primary Examiner  
Art Unit 1795

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